seem to be equally inefficacious. Frerichs cites, among others, transfusion, the administration of oxygenated water, stimulants, weak solutions of phosphate and chloride of sodium, subcutaneous injections of ether, camphorated oil, antizymotics, carbolic acid, salicylic acid, etc. Of the causes of diabetic coma we are still ignorant; the alterations of the nerve centres, as offered in explanation by some, are not constant; others speak of thickening of the blood by an accumulation of sugar in it, a morphological and functional alteration of the red globules. This gratuitous hypothesis has led to dangerous therapeutic measures; others have attempted to unite diabetic coma and uræmia by ascribing the former to insufficient excretion of urine. Frerichs relates a case of uræmia in a diabetic which conclusively proves that there can be no possible assimilation between the intoxication of Bright's disease and that of diabetes which produces fatal coma. Ebstein has attributed diabetic coma to a retention of the excrementitious products of the blood, occasioned by a necrosis of the renal epithelium at the level of Henle's tubes. This lesion is too inconstant to explain the result. Frerichs has observed that in diabetics the epithelial cells of the tubules were constantly the seat of a hyaline degeneration, due to an accumulation of glycogen in the cells. The sole fact of its constancy in diabetics, who have succumbed to it matters not what complication of this degeneration, cannot be held to be the cause of the comatose condition.

Frerichs has never been able to discover traces of fat emboli in the pulmonary vessels of the glomeruli of the kidney, of the liver or brain, as has been suggested as a possible fact in the pathogenesis of diabetic coma. In fine, says Ricklin, it is commonly admitted to-day that acetone and diacetic ether, which for a long time have been considered as causes of diabetic intoxication and coma, have no part in its development; diacetic ether pre-exists neither in the urine nor in the blood, and both acetone and diacetic ether are frequently injected into the veins of animals in laboratories.

Jaksch has shown (*Zeitschr. f. Physiol. Chem.*, t. vi. 541, 1882) that acetone is a product of malassimilation which is found in the blood and urine in the normal state, and that it is increased in certain pathological sates; he says that every febrile affection, from whatsoever cause, is accompanied by acetonuria; and that the quantity of acetone eliminated by the urine, which may reach five centigrams in twenty-four hours, is in direct proportion to the intensity of the fever. Jaksch has seen cases of diabetes in which only normal quantities of acetone were eliminated by the urine; other cases present a true acetonuria, the urine turning red when heated with perchloride of iron. In still others, advanced diabetics, this reaction coincided with the presence of a considerable quantity of acetone in the urine. Of this third class many patients succumb to diabetic coma. Jaksch has twice found pronounced acetonuria in young men suffering with gastric troubles, saburral tongue, anorexia, constipation alternating with diarrhœa, cephalalgia, slight tumefaction of the spleen without fever. In these cases the urine heated with perchloride of iron gave the red color. He has also found a large quantity of acetone in the urine of persons with hydrophobia, as well as in cases of cancer of the stomach, in a case of cancer of the œsophagus, and in one of cancer of the stomach and pancreas. In another case dying in a state precisely similar to diabetic coma, the autopsy showed cancer of the pylorus, with metastatic foci in a large number of organs. (Ueber Pathol. Acetonuria, *Zeits. für Klin. Med.*, t. v. fasc. iii. p. 346.)—*Gaz. Méd. de Paris*, July 7, 1883.

Resorcin in Whooping Cough.

In an interesting article, recently published, Dr. MONCORVO, Professor of Diseases of Children in the Polyclinic of Rio de Janiero, strongly advocates the employment of resorcin in pertussis.

He considers the parasitic origin of pertussis as established, and believes that resorcin is the proper germicide. Indeed, its parasitic origin now scarcely admits of a doubt since Burger, of Bonn, published his conclusions, which were that: 1. The bacilli were only encountered in the sputum of patients affected with whooping-cough. 2. They appeared in such quantities in the sputum of these patients that their influence could not be doubted; and, 3. The intensity of the case was in direct proportion to the abundance of the leptothrix buccalis. The experiments and examinations of Dr. Moncorvo and Prof. Silva Araujo fully confirmed Burger's conclusions.

Having satisfied himself as to the origin of whooping-cough, Prof. Moncorvo concluded that the most effectual theurapeusis was a local application to the laryngeal mucous membrane, and in view of its non-irritating qualities, resorcin seemed to be peculiarly adapted in these cases. It should be used in an aqueous solution of one per cent. and applied to the epiglottis and larynx by means of a camel's-hair pencil well curved and suitable for introduction into the larynx. Contrary to what would be expected, the application is not irritating to the larynx, nor does it bring on a paroxysm of cough, except at the first one or two applications. The taste and odour, not being disagreeable, increase its value for this purpose. It is, as we know, harmless when given internally to very young children even in large doses. It is important that a pure article be used; pure resorcin is very white, and occurs in the form of crystalline needles of silvery brightness. Besides the fourteen cases reported in detail, he has successfully treated twenty other cases with it, some very obstinate and complicated by hereditary syphilis, intermittent fever, threatened hydrocephalus, etc. Of the fourteen cases of which detailed reports are given, many are interesting on account of the rapidity with which the application caused the disease to disappear; in eight cases, variously complicated by hereditary syphilis, intermittent fever, marasmus, diarrhœa, and pulmonary tuberculosis, the disease had entirely disappeared in six weeks. In fact, of these cases, only two remained uncured at the end of four weeks, some being completely cured in one and two weeks.

From these facts he feels justified in concluding:—

1. That whooping-cough, whose nature and genesis, up to a very recent period, have been variously interpreted, may now, on account of recent microscopical observations, be classed among the parasitic diseases.

2. That the disease appears to be due to the presence of micrococci, which multiply with great rapidity in the hyperglottic region of the larynx, infiltrating the epithelial cells, which cells appear to be the elective seat of their development.

3. That resorcine, applied directly to the laryngeal mucous membrane, caused, in every case in which it was employed, rapid decrease in the number of the paroxysms, marked decrease of their intensity, and recovery in a short time without the aid of other medication.—*União Medica*, March, April, and May, 1883.

Pathology of Bronchial Asthma.

Prof. Riegel, of Giessen, in approaching the consideration of the pathology of asthma, remarks that there are several distinct questions involved, which are still more or less imperfectly settled. The first of these questions manifestly is: Is there really such a function in the bronchial muscles as active contraction, sufficient to affect the calibre of the tubes and to modify the pressure of the air within the lungs? Very different have been the answers given to this question by different physiologists—for we must be careful to notice that this is but a matter of physiology, and not of clinical medicine. Prof. Riegel's results are entirely in